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17. (Amended) A computer program for controlling a computer for controlling processing of a workpiece in a vacuum plasma processor chamber wherein a gas species is converted into an AC plasma, the chamber being capable of operating at different pressures while the workpiece is being processed, the gas species being subject to flowing into the chamber at different flow rates while the workpiece is being processed, the computer program storing a signal causing the amount of AC power applied to the plasma while the workpiece is being processed; the stored signal for the amount of applied AC power causing gradual preprogrammed changes in the amount of AC power supplied to the plasma during processing of the workpiece.

18. (Amended) The program of claim 17 wherein the computer program also stores signals causing (a) the vacuum chamber to operate at different pressures while the workpiece is being processed and (b) control of the gas species type and the flow rates thereof into the chamber while the workpiece is being processed, the stored signals causing the gradual power change to occur while no change is made in (a) the species, (b) the pressure or (c) the flow rate.

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20. (Amended) The program of claim 18 wherein the stored signals control etchant species supplied to the chamber while the workpiece is being processed and the gradual power transition so as to cause the workpiece to be etched to have a rounded corner.

21. (Amended) The program of claim 20 wherein the stored signals control etchant species supplied to the chamber while the workpiece is being processed and the gradual power transition so as to cause the workpiece to be etched to have a trench wall including the rounded corner.

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Please add claims 23-28 as follows:

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--23. The method of claim 1 wherein the gradual change is substantially continuous and gradual.

--24. The processor of claim 14 wherein the gradual change is substantially continuous and gradual.

--25. The program of claim 17 wherein the gradual change is substantially continuous and gradual.

--26. The method of claim 23 wherein the gradual change includes steps having power changes in the range of a few milliwatts to several watts and having durations in the range of about one millisecond to about one second.

--27. The processor of claim 24 wherein the gradual change includes steps having power changes in the range of a few milliwatts to several watts and having durations in the range of about one millisecond to about one second.

--28. The program of claim 17 wherein the gradual change includes steps having power changes in the range of a few milliwatts to several watts and having durations in the range of about one millisecond to about one second.

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